



Memories of Camille: School Survives Katrina

Full Mitigation Best Practice Story

Jackson County, Mississippi

Ocean Springs, MS – Memories of Hurricane Camille's devastating impact on the Mississippi Gulf Coast in the summer of 1969 prompted Ocean Springs Middle School to take preventative measures prior to Hurricane Katrina.



Many long-time residents vividly remember how Camille's fury resulted in numerous deaths and widespread destruction, closing schools for weeks. Learning from experience, the school vowed to develop techniques to reduce the loss of life and property in future disasters.

With an enrollment of 1,300 students, Ocean Springs Middle School is one of the largest middle schools in Mississippi. Residents here are committed to academic achievement and school safety.

To fulfill that mission, the school believes it is their responsibility to provide its faculty and students with protection from storms. To that end, the school installed permanent wind-resistant shutters on vulnerable classroom windows to help protect against strong winds charging in from the Gulf of Mexico.

Although the money for storm shutters was not in the city's budget, school officials remained committed to their cause. The Mississippi Emergency Management Agency applied to the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP) on behalf of the Ocean Springs Middle School, and was awarded \$49,477 in funding for the hurricane mitigation project. FEMA paid 75 percent of the cost of the project, and the remainder was funded by the City of Ocean Springs.

The shutters performed exceptionally well when Hurricane Katrina made landfall on August 29, 2005, registering winds of up to 104 miles per hour in this Gulf Coast community.

The hurricane shutters shielded windows from wind-borne objects and also protected the contents inside the building. Without shutters, a window may be easily breeched by hurricane winds. This creates tremendous upward pressure which may cause major roof failure, exposing the interior of the building to the storm.

After Hurricane Katrina, Ocean Springs Middle School remained intact and operational, unlike many public buildings in the city which were severely damaged and uninhabitable. In fact, the school served as a disaster command center immediately following the storm and later as a shelter for families who had lost their homes.

Greg Denyard, the principal of Ocean Springs Middle School at the time Katrina struck, was proud that the storm shutters performed as intended.

"The shutters accomplished their original purpose," Mr. Denyard said. "They kept out wind, water, and debris while contents remained dry." He surveyed the school grounds immediately after the storm and found evidence of severe wind damage including broken glass from cars, tree limbs, sheet metal from a neighboring building, and debris from nearby homes.

According to David Baggett, the current principal of Ocean Springs Middle School, "Getting back to school is so important after a disaster because the students need stability when they have lost their homes. They need a place where they feel safe and secure." Mr. Baggett's own home was completely destroyed by Hurricane Katrina.

Other schools in the district were not as fortunate as Ocean Springs Middle School. Ocean Springs Elementary, located just a mile away, experienced extensive damage because its windows were not protected.

Storm shutters are a cost-effective way to protect schools. They are designed to withstand the impact of hurricane-force winds and prevent window failure that could allow wind, rain, and debris to enter a building.

Ocean Springs Middle School demonstrated that taking preventative safety measures not only provides teachers and students with an increased sense of security, but also ensures continuity of vital educational and social resources in the wake of a disaster.

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IV**

State: **Mississippi**

County: **Jackson County**

City/Community: **Ocean Springs**

Key Activity/Project Information

Sector: **Public**

Hazard Type: **Hurricane/Tropical Storm**

Activity/Project Type: **Retrofitting, Structural**

Structure Type: **Masonry, Reinforced**

Activity/Project Start Date: **06/1999**

Activity/Project End Date: **10/1999**

Funding Source: **Hazard Mitigation Grant Program (HMGP)**

Funding Recipient Name: **OCEAN SPRINGS MIDDLE SCHOOL**

Application/Project Number: **9999**

Activity/Project Economic Analysis

Cost: **\$49,477.00 (Estimated)**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Unknown**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **No Federal Disaster specified**

Year First Tested: **2005**

Repetitive Loss Property? **No**

Reference URLs

Reference URL 1: <http://www.fema.gov/plan/index.shtm>

Reference URL 2: <http://www.msema.org>

Main Points

- Ocean Springs Middle School received HMGP funds to install storm shutters.
- The school demonstrated that taking preventative safety measures not only provides teachers and students with an increased sense of security, but also ensures continuity of vital educational and social resources in the wake of a disaster.



Shutters helped protect the school during Hurricane Katrina.